

Based on a study funded by the cities of Piqua and Troy



presents

Piqua/Troy Water System Study Recommendations

TUESDAY, JULY 31, 2012, 7 P.M.

EDISON COMMUNITY COLLEGE

ROBINSON THEATRE, ROOM 040

1973 EDISON WAY, PIQUA

*RA Consultants presents its analysis and recommendations of the
feasibility and financial rate impacts of various water treatment
plant options*

Contact (937) 335-1725 for details and directions

Frequently Asked Questions

About the Piqua/Troy Water System Study

What is the purpose of the study?

The purpose of the “Joint Water Treatment and Water Supply Operation” study is to investigate the technical and financial feasibility of creating a joint water supply and treatment utility operation, such as a water district or commission that could more cost effectively treat and supply drinking water to the two communities versus the current independent operations within the two communities.

Who paid for the study, and how much was paid?

The total cost of the study was **\$149,883** (\$124,896 to RA Consultants, LLC, and \$24,987 to Eagon & Associates for an additional aquifer study). Piqua and Troy each paid half of this fee using money from their respective water funds.

Where did the information used in projections come from?

Engineering professionals and an industry financial analyst visited administrative, operational, and financial staff in both cities and acquired the information on which the study was based. This included historical, current, and projected operational and capital expenses and also projected growth rates in each community.

Why does Piqua need to explore these options; why not just update the current plant?

The treatment processes in the current Piqua water treatment plant (WTP) may not be able to maintain compliance with the more stringent 2013 EPA limits on disinfectant by-products in the treated water. The plant was constructed and went on line in 1925; to update it has been determined not to be cost effective.

The report is over 100 pages; in summary, what is the total cost to Piqua for each option?

NEW PLANT: \$31,630,000 to build a new 6.75 MGD (million gallons per day) treatment plant, as proposed by the engineering firm CDM-Smith, currently working with Piqua.

JOINT VENTURE: \$23,500,000 which includes two costs: **\$15,000,000** to purchase half ownership (**8 MGD**) in the Troy WTP and wellfields, and **\$8,500,000** to pay for half of the costs to connect the two systems.

Why are these total projected costs different from what has appeared in newspapers?

Apart from the RA Study, Piqua had CDM-Smith conduct a water distribution system study within Piqua and determined that water distribution system improvements of **\$4,500,000** are needed for either option. Thus, total costs to Piqua to build a new WTP are projected at **\$36,130,000**; to joint venture with Troy totals **\$28,000,000**. However, the RA Study used only the costs without distribution system improvement costs, which were identified later.

What are total projected costs to Troy for each option?

JOINT VENTURE: \$8,500,000 to pay for half of the costs to connect the two systems, plus **\$800,000** for one new well and infrastructure work at the WTP to accommodate the supply of water to Piqua.

There are no projected costs for Troy if Piqua builds a new WTP.

In news releases, it has been stated that the cost to Piqua of the Joint Venture is projected to be nearly **\$33,000,000**. Why the difference from the **\$23,500,000** in the RA Study?

After the study was completed and presented to both cities, additional changes were made by Piqua, specifying larger transmission pipelines and specifying two of them instead of one. Such redundancy and sizing, in the opinion of RA engineering professionals, is not cost effective and unnecessary.

In summary, what impact does each option have on water rates?

See tables below for projected annual rate impacts (water rates only; does not include sewer). The tables illustrate a monthly household use of 7,500 gallons. Note that estimates vary, but each person uses about 80-100 gallons of water per day. * <http://ga.water.usgs.gov/edu/qa-home-percapita.html>

These charts are provided solely to illustrate RA Study projected rate impacts for each city, and do not reflect actual proposed rate increases. The actual 2012 water rates in effect in both Piqua and Troy are the base rates; the projected annual percentage increases are taken from the RA Study.

YEAR	PIQUA (new WTP)			PIQUA (Joint Venture)		
	See footnote (1) for actual 2012 rate information source.					
	Cost for 7,500 gal./ mo.	Projected Annual(2) Increase	Cumulative Rate Increase	Cost for 7,500 gal./ mo.	Projected Annual(3) Increase	Cumulative Rate Increase
<u>2013</u>	\$55.32	45%	45%	\$57.23	50%	50%
<u>2014</u>	\$69.15	25%	81%	\$68.67	20%	80%
<u>2015</u>	\$79.52	15%	108%	\$72.10	5%	89%
<u>2016</u>	\$104.96	32%	175%	\$72.10	0%	89%
<u>2017</u>	\$113.36	8%	197%	\$72.10	0%	89%
Cumulative total impacts through the year 2035:						
<u>2035</u>	\$348.69	6%	814%	\$129.99	4%	241%

	TROY (Status Quo)			TROY (Joint Venture)		
	See footnote (1) for actual 2012 rate information source.					
<u>YEAR</u>	Cost for 7,500 gal./ mo.	Projected Annual(4) <u>Increase</u>	Cumulative Rate <u>Increase</u>	Cost for 7,500 gal./ mo.	Projected Annual(5) <u>Increase</u>	Cumulative Rate <u>Increase</u>
<u>2013</u>	\$36.46	0%	0%	\$36.46	0%	0%
<u>2014</u>	\$38.65	6%	6%	\$40.84	12%	12%
<u>2015</u>	\$40.97	6%	12%	\$40.84	0%	12%
<u>2016</u>	\$43.42	6%	19%	\$40.84	0%	12%
<u>2017</u>	\$44.73	3%	23%	\$40.84	0%	12%
Cumulative total impacts through the year 2035:						
2035	\$55.55	3%	52%	\$50.77	2%	39%

Footnotes:

(1) Rates effective 3-1-2012 as supplied by Piqua and Troy for the "2012 Annual Survey Water Cost" prepared by City of Oakwood Finance Dept. Rates are based on 3-month usage of 22,500 gallons, and have been divided by 3 for the purposes of this illustration of projected monthly water rate impacts. For Piqua, that 2012 rate is \$38.15 for 7,500 gal./month; for Troy it is \$36.46 for 7,500 gal./month.

(2) Annual Rate Increase per Table 4-5, "City of Piqua - City of Troy Water System Study", pg. 39.

(3) Annual Rate Increase per Table 4-19, "City of Piqua - City of Troy Water System Study", pg. 50.

(4) Annual Rate Increase per Table 4-11, "City of Piqua - City of Troy Water System Study", pg. 43.

(5) Annual Rate Increase per Table 4-24, "City of Piqua - City of Troy Water System Study", pg. 53.

Why are the projected rate increases for Piqua so much higher when building a new plant compared to the projected rate increases reflected in the joint venture with Troy?

If Piqua builds a new **6.75 MGD plant**, and Troy continues to operate its **16 MGD plant**, then the higher rates reflect the costs to each city to operate and maintain excess capacity that exceeds both current and projected average daily demand and maximum daily demand.

If Piqua and Troy enter into the joint venture, both systems utilize the existing **16 MGD** capacity of the Troy plant, which would still have excess capacity for growth in either city. In the joint venture, rate payers in both Piqua and Troy would benefit from the lower per-million-gallons (MG) cost resulting from using more of the existing treatment and source capacity that would then be jointly owned by both.

What is the concern over EPA Superfund sites in Troy and the Troy aquifer supply?

Eagon & Associates, a hydro-geological consulting firm based in Columbus, OH, was contracted as part of the RA Study to investigate the presence of volatile organic compounds (VOCs) found in varying strata of the aquifer within the Troy city limits. These solvent by-products likely came from old dry cleaning shops and/or industry, and parts of Troy (NOT the well fields) have been placed on US EPA Superfund status, making US funds available for clean-up, which is currently underway. The independent finding of Eagon & Associates upon thorough research of this as related to the Troy wellfields was that **“based on the review of available information, it is concluded that there is no plausible scenario whereby the aquifer becomes unusable from the standpoint of water quality.”**

How much water does each city use?

Piqua’s current water plant has a capacity of **7 MGD**; the proposed plant would have a capacity of **6.75 MGD**. For this study, Piqua reported that “According to historical (2011) and projected demands, the average day finished water consumption is approximately 3.5 MGD, with a maximum day usage of 4.7 MGD.”

Troy’s water plant has a capacity of **16 MGD**; the current well field has firm capacity of 10.4 MGD. The average day demand in the Troy distribution system is 4.1 MGD, with a 2011 maximum day usage of 5.5 MGD.

Using growth projections from both cities, this Study calculates a combined systems’ average daily demand in the year 2035 to total **9.02 MGD** (3.66 MGD for Piqua, and 5.36 MGD for Troy).

Are there other options available that could control the growth of rates for both cities?

This study was, by direction from Piqua and Troy staff, to assess the financial feasibility of a joint water utility operation only. However, at the beginning of this project, other options were discussed. The industry financial analyst engaged for the financial projections in this study, being familiar with similar ventures, did suggest that Troy consider calculating a true wholesale water rate for Piqua, with contract clauses to protect each city and which were projected to result in less rate increases for Piqua rate payers. Troy personnel were working on this option at the time that the Piqua Commission voted to build the new plant.

Where can I obtain the full RA Study report? The report is available via a link on each city’s webpage:

Piqua: <http://www.piquaoh.org/water.htm>

Troy: <http://www.troy-ohio-usa.com/>

IF YOU HAVE ANY ADDITIONAL QUESTIONS OR COMMENTS, contact:

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